

February 9, 2022

The Honorable Paul Pinsky, Chair
Senate Education, Health and Environmental Affairs Committee
3 West, Miller Senate Office Building
Annapolis, MD 21401

Oppose: SB 528– Climate Action Now Act of 2022

Dear, Chair Pinsky and Committee Members:

The NAIOP Maryland Chapters represent 700 companies involved in development and ownership of commercial, mixed-use, and light industrial real estate, including some of the largest property owners in the state. NAIOP's membership is comprised of a mix of local firms and publicly traded real estate investment trusts that are invested in the future of Maryland but also have experience in national and international markets. On behalf of our member companies, I am writing in opposition to Senate Bill 528.

NAIOP's Commitment to the Greenhouse Gas Reduction Act

NAIOP supports adoption of reasonable strategies and responsible, technically sound regulations designed to reduce greenhouse gas emissions on schedules and using methods that minimize economic disruption and result in an orderly energy transition for building owners and occupants. We are concerned that SB 528 will result in an abrupt, unstructured, expensive and disruptive transition.

Success in climate mitigation fits the ambition and values of NAIOP's members. NAIOP supported adoption and reauthorization of the Greenhouse Gas Reduction Act. [GGRA] The GGRA ensures that Maryland's climate mitigation plans meet specific performance criteria that reduce greenhouse gas emissions but also generate economic benefits, maintain stable energy markets and present the public with least cost and practical compliance options.

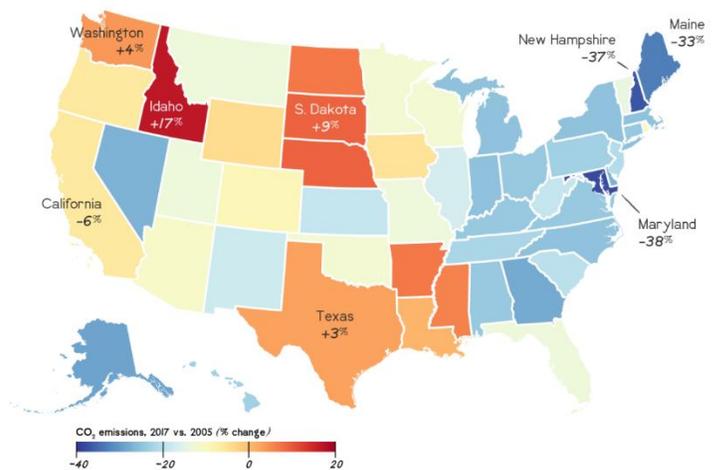
Developing sets of practices that meet the intent of the GGRA principles can be challenging but it has produced strong results. In 2008 the state estimated that without action, emissions in Maryland would reach 128.3 million metric tons [MMT] by 2020. The GGRA 2030 Plan model results indicate emissions of ~67MMT in 2020.

A 2020 report from the World Resources Institute entitled, "America's New Climate Economy" ranked Maryland first out of 41 states that had both reduced emissions and grown their economies.

As climate mitigation gets harder it will be more important than ever that policymakers adhere to the performance characteristics called out by the GGRA. If political demands are allowed to bypass or lower the performance standards set by the GGRA, then our view is that, in the short to medium term, the risk of abrupt and forceful policy mistakes will have a more significant impact on real estate assets in the state than the risk from physical climate change.

Time for a change

Carbon dioxide emissions, percent change, 2005–2017



Source: World Resources Institute

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Essential Policy Elements

Building decarbonization depends on coordinated progress across six interrelated policy and market areas that start with renewable energy generation and end at building level changes to heat and hot water equipment.

The bill mandates changes to end use equipment and operations but does not provide answers to these other unresolved, interrelated policy issues.

It sets performance mandates and penalties but does not provide financial support to overcome the negative economics of electrifying large commercial buildings.

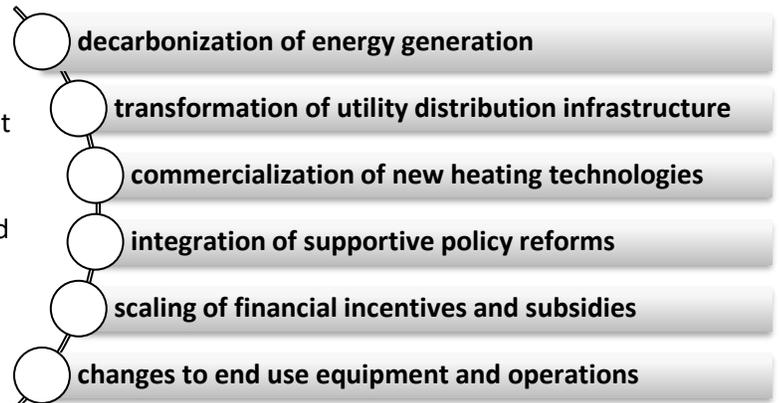
The deadlines in the bill do not provide time to address persistent issues related to the readiness of the utility grid, time for equipment to turnover at the end of its natural life, or for advancement in heat pump technologies. All of these things will increase the cost and difficulty of an energy transition.

The bill hastily decouples from the International Code Council [ICC] building and energy codes rather than allow ICC to complete development of its low carbon and zero carbon code pathways which would provide a technically sound and managed transition.

This state’s ambitious goals to electrify building heating loads, automobiles and buildout renewable power generation and distribution all intersect at buildings. The order and pace of these transformational changes need to be sequenced and the costs and benefits equitably allocated between building owners and occupants, utilities and the electric vehicle industry.

A general lack of readiness in these important policy areas prevents building owners from believing that building electrification on the abrupt pathway set out by the bill will result in positive economic and environmental outcomes. Without more of a systems approach to thinking about climate mitigation and a structured, orderly framework the possibility of transition risks and policy mistakes become much more likely.

Six Essential Elements of Building Decarbonization Policy



The Scale of the Bill – More than 1.5 billion square feet of space – 1/3 apartments, 2/3 commercial

Region	Buildings	Square Feet
Baltimore Metro	7,726	818,818,379
Lower Eastern Shore	510	47,701,744
Southern Maryland	467	36,512,649
Suburban Maryland	4,918	585,781,058
Upper Eastern Shore	486	47,820,051
Western Maryland	666	65,300,855
Total	14,773	1,596,934,736

Source: Costar

Economics

While there will be some cost-effective opportunities to electrify heat and hot water in smaller buildings, for many commercial buildings, electrification will not provide a return on investment during the lifetime of the equipment.

A research report by the American Council for an Energy Efficient Economy evaluated electrification of space heating in existing commercial buildings under several different scenarios.

The charts below show the simple payback period for buildings replacing gas fired furnaces and boilers with a commercial heat pumps system. Only 27% of commercial floor area will achieve a simple payback period of 10 years or less. The percentage that payback at the building level can be increased 60% with incentive payments. The data are nation-wide, and the report notes much better heat pump economics in parts of the country that have mild winters and for building types with modest heating demand.

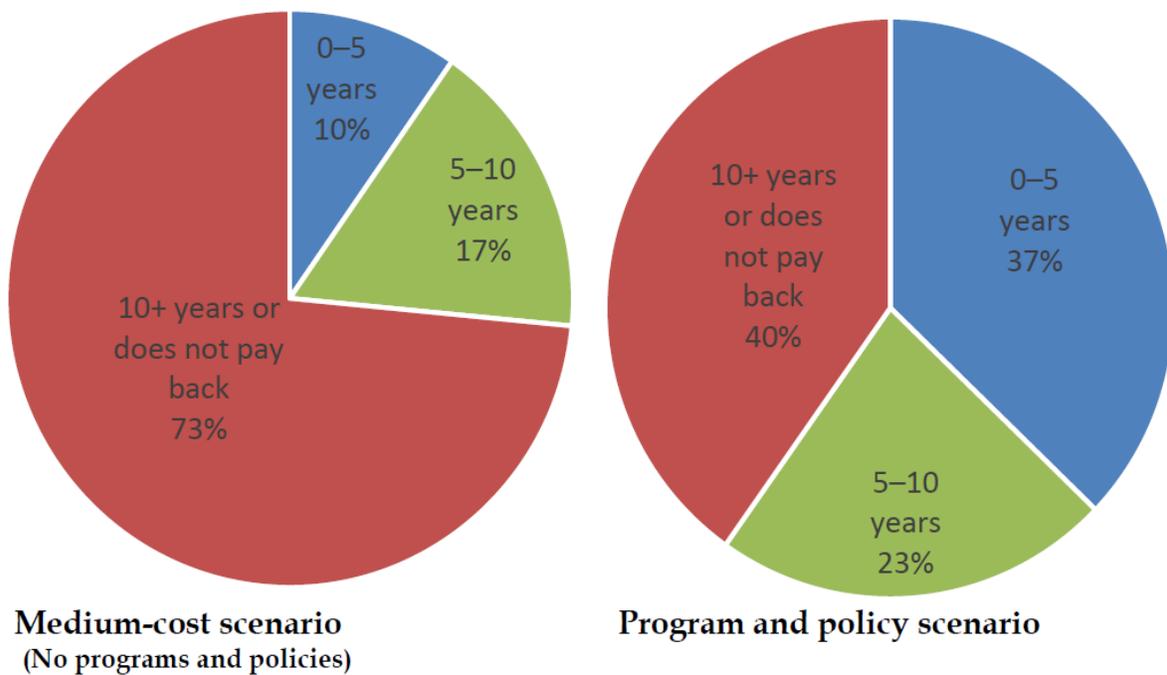


Figure ES-1. Distribution of the simple payback period by floor area for converting gas-fired rooftop systems, furnaces, space heaters, and small boilers to heat pumps when existing equipment needs to be replaced

For large commercial building types, heat pump and hot water heat pump technologies will not be cost competitive until price and performance improve. How quickly that happens will determine how quickly commercial buildings may be able to electrify.

The line graphs below were produced by MDE’s climate consultant as part of analysis of the building energy transition plan. The consultant’s reporting is based on assumptions that the cost of heat pump technologies will decrease 37% by 2050. Even with that optimistic level of improvement, the commercial heat pumps and heat pump water heaters [blue lines] are still more expensive to install in 2050 than other types of equipment.



Equipment costs trajectories were calculated up to 2050

- + Residential retrofit heat pump costs are projected to decrease by 28% by 2050
- + Commercial retrofit heat pump costs are projected to decrease by 37% by 2050

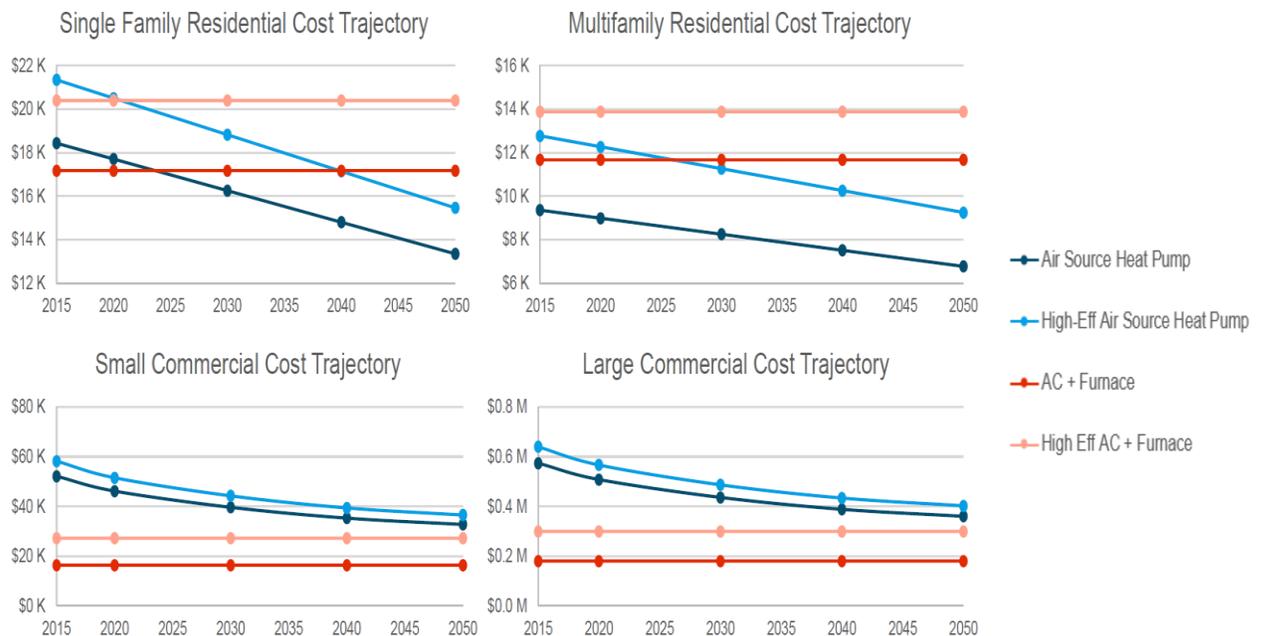


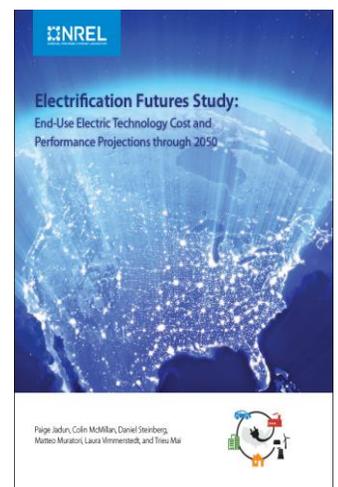
Figure 9. HVAC Equipment retrofit cost trajectories for each building sector

National Renewable Energy Laboratory [NREL] – *Electrification Futures Study: End-Use Electric Technology Cost and Performance Projections through 2050* – Evaluates the levelized costs and forecast the rate of advancement in the price and performance of technologies important to building electrification.

Key takeaways from the report related to the feasibility of electrifying commercial buildings:

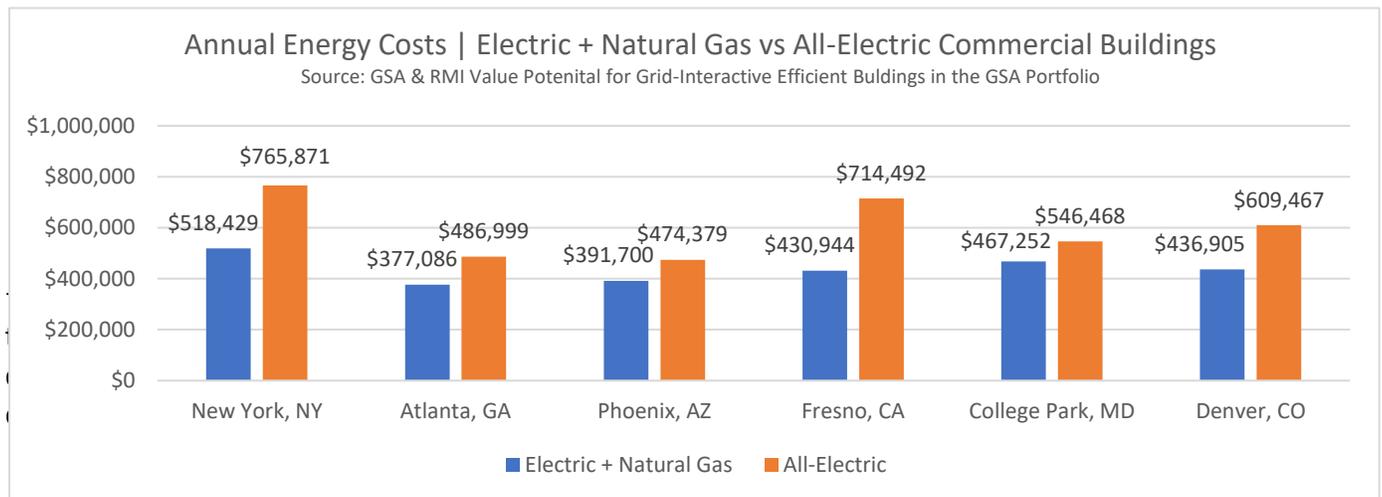
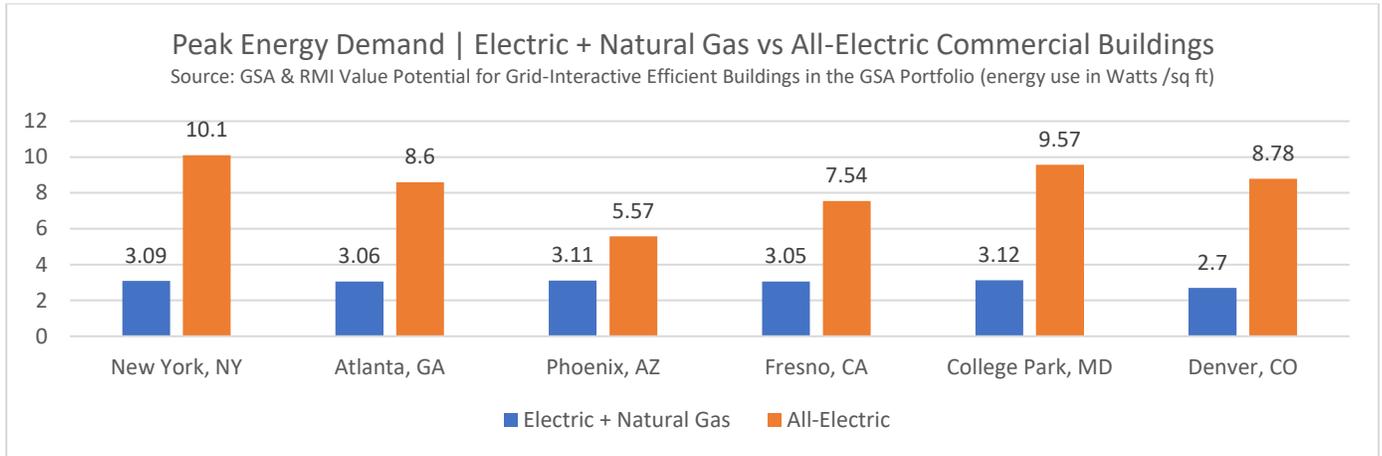
“In the commercial sector heat pump technologies for space heating applications in warm or moderate climates can become cost competitive by the end of 2040.”

“In contrast commercial ccASHP (cold climate Air Source Heat Pumps) require substantial improvements to achieve cost parity with incumbent gas technologies, but with advancement.... could do so over the next two decades.”

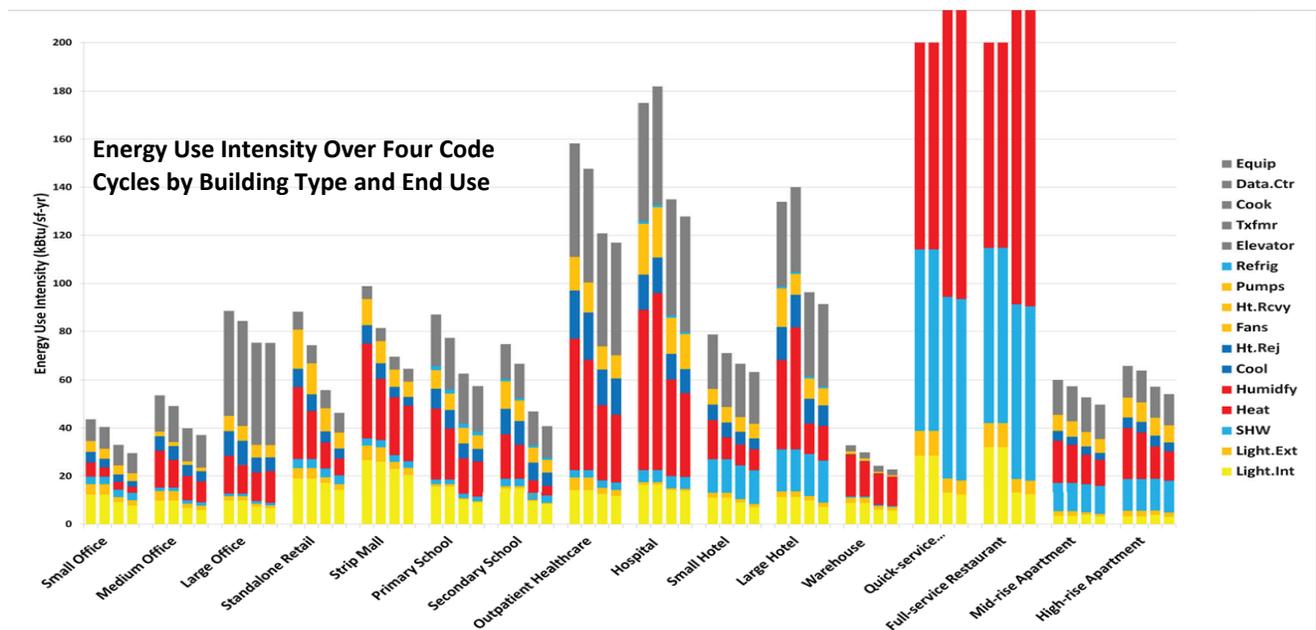


The report goes on to say that for a cost driven shift in adoption to take place, from gas fired water heaters to commercial heat pump water heaters, cost and performance would have to improve by 50%.

Peak Energy Loads and Total Energy Costs Increase with Electrification



The Level of Difficulty Will Vary



For decades, the commercial real estate industry in Maryland has been committed to energy efficiency, conservation, and high-performance construction. This experience leads NAIOP to consider deep reductions in carbon emissions from buildings to be the most challenging of the sectors.

Electrification and decarbonization will be technically and economically challenging for many building types. Feasibility is particularly challenging for large commercial buildings that have energy intensive occupants – restaurants, education, hotels, medical providers and 24/7 365 operations.

The World Green Building Council and other thought leaders say industry-wide decarbonization needs to happen by 2050. Decarbonizing the commercial building stock on a 2050 timeframe with goal of 2045 if it is feasible would be a challenge even under optimistic scenarios for technology advancement, renewable energy deployment and with favorable economic conditions. Requiring 40% of commercial building emissions to be abated by 2035 is unreasonable and it is not realistic to apply an industry-wide 2040 target.

Building Codes

NAIOP has major concerns that decoupling from the building codes will force the use of unproven technologies and costly, untested code provisions.

Building codes and technical standards are carefully developed to balance building performance and cost through a process that has the capacity and expertise to ensure the standards and requirements are technically feasible, commercially available and cost effective for builders and occupants.

ICC is pursuing standards-based approaches reduced carbon and zero carbon construction that will provide for a technically sound and managed transition. Maryland should support that policy transition instead of adopting an arbitrary, calendar-based prohibition on fuel use. The state should wait for this work product to be finished rather than decoupling.

NAIOP believes success will be more likely through a technology and fuel neutral approach that resists component-based, piecemeal mandates and fuel bans. A holistic approach recognizes that buildings are complex, integrated systems that can provide multiple pathways to achieve performance objectives provided design teams have the freedom to make trade-offs and take advantage of synergistic opportunities. A fuel and technology neutral approach is taken by the national codes adopted by the state and local governments as the International Energy Conservation Code as well as EPA Energy Star, LEED, IGCC, Zero-Code and other voluntary high-performance building certification programs.

We caution against the tendency to conflate the ability of some buildings to effectively electrify with the ability of **all** buildings to electrify.

Heat pump technologies [both for heat and hot water] do not scale up well for deployment in large commercial buildings and will not be cost-effective for most commercial uses until technical performance improves, and costs decline.

Until then many large commercial buildings will use inefficient electric resistance equipment which will increase peak energy demand and electricity costs in ways not contemplated by MDE's scenario planning for building electrification.

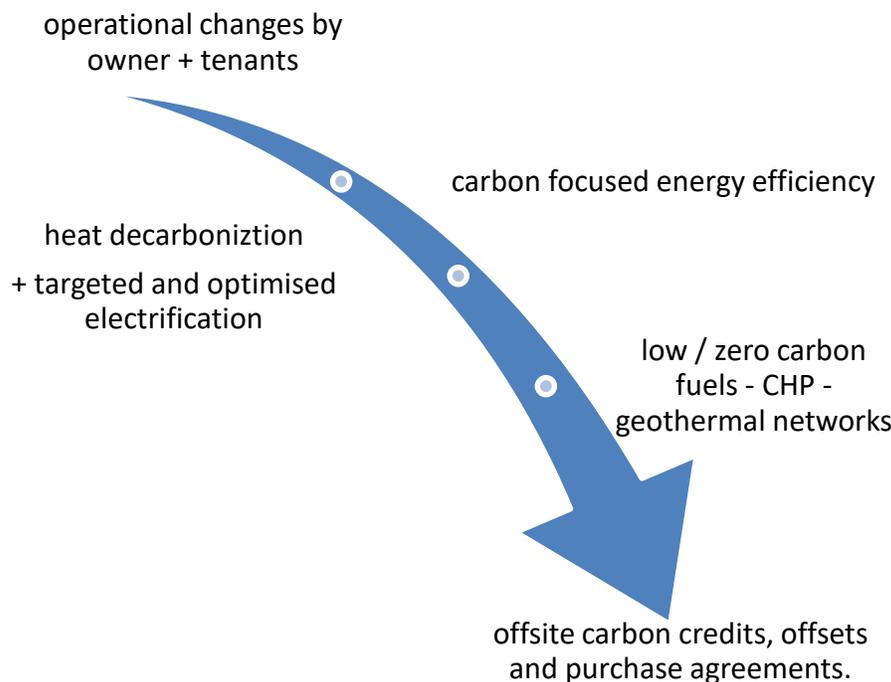
Whether electrification of large commercial buildings increases or decreases carbon emissions is dependent on the carbon intensity of utility generated electricity provided during peak heating periods. Peak heating demand occurs during early morning hours of the winter when renewable electricity generation and heat pump performance are both weak.

Under the definition secondary and back-up power generation are not permitted to be served by fossil fuels.

There are no provisions for grandfathering mature projects already designed for fossil fuel equipment construction in developments that have already installed gas infrastructure.

The bill provides various provisions that require state entities to comply only if they receive compensation for the incremental costs or allow requirements to be waived based on the suitability of equipment, site constraints, or the building use. Private buildings do not get this kind of consideration.

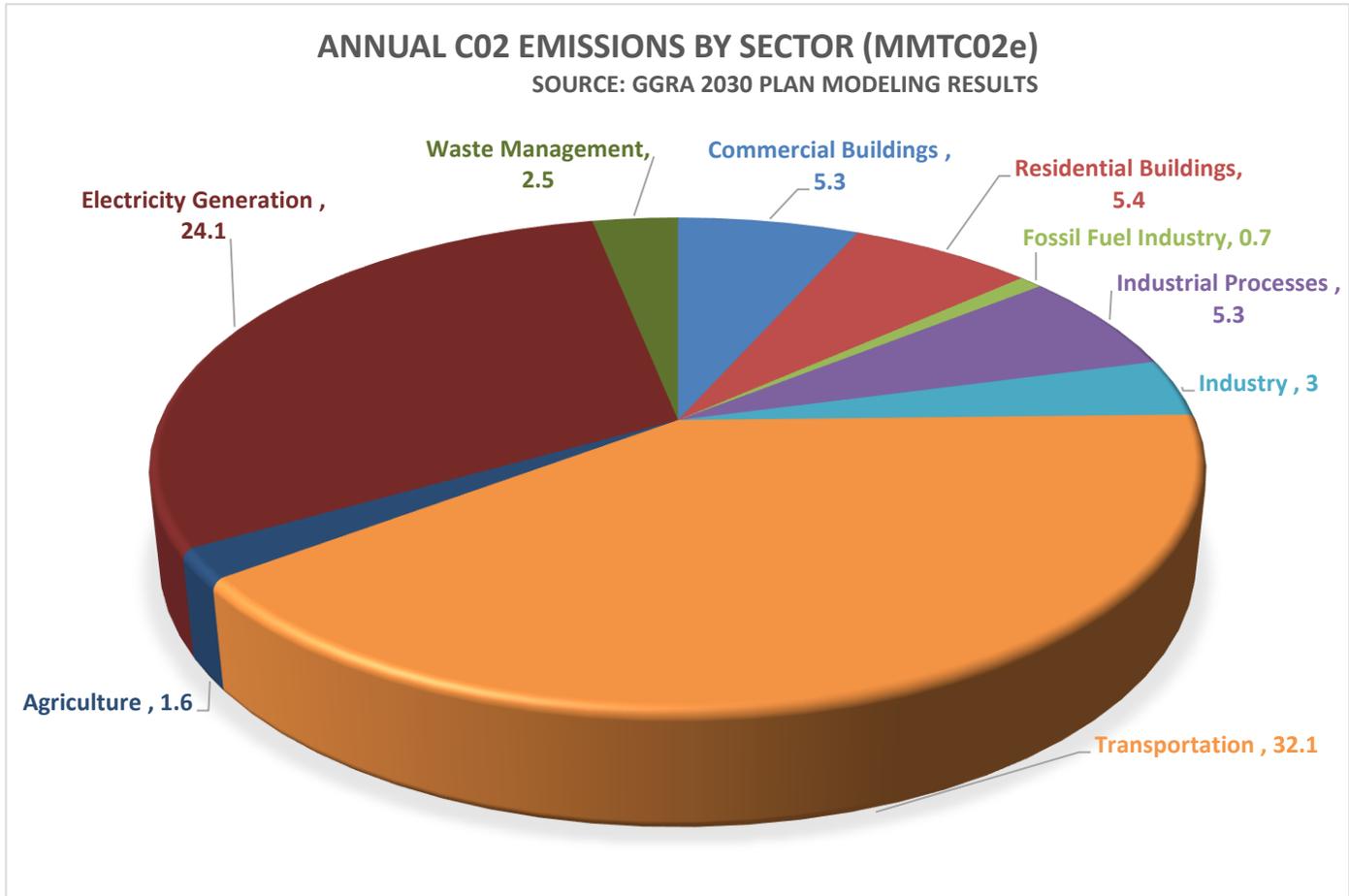
Building Energy Transition to Net Zero - Conceptual Framework



Perspective on the Amount of Building Emissions in Maryland

Emissions from commercial buildings are 5.3 million metric tons representing 7% of Maryland’s economy-wide emissions total of 80 million metric tons. Emissions from natural gas use in commercial buildings are about 4MMT per year representing 5% of emissions.

From a cost to abate a ton of carbon, SB 528 presents one of the most expensive and challenging pathways. There are other lower cost approaches.



For these reasons NAIOP respectfully requests your unfavorable report on SB 528.

Sincerely,

Tom Ballentine, Vice President for Policy
NAIOP Maryland Chapters -*The Association for Commercial Real Estate*

cc: Senate Education, Health and Environmental Affairs Committee
Nick Manis – Manis, Canning Assoc.